



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,902	08/28/2006	Takashi Akaba	062790	4368
38834 7590 07/09/2010 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER NGUYEN, HUNG D				
ART UNIT 3742		PAPER NUMBER		
NOTIFICATION DATE 07/09/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

### Office Action Summary

**Application No.**

10/590,902

**Applicant(s)**

AKABA ET AL.

**Examiner**

HUNG NGUYEN

**Art Unit**

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-5 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki (JP 53115640) in view of Wegener (US Pat. 6,601,426) (both previously cited) and Kudo (JP 59-150675) (newly cited).**
3. Regarding claims 2-4, Oki discloses an apparatus for improving residual stress of piping, the T-piping comprising a first piping (2, Fig. 2 below) having one end welded and connected to a tubular circumferential surface of a second piping (1, Fig. 2 below), and comprising: a circumferential-direction position adjusting structure for moving the welding head (6, Fig. 2 below) along a circumferential direction about a tubular axis of the first piping (Circular axis of pipe 2, Fig. 2 below); a tubular axial-direction position adjusting structure for moving the welding head (6, Fig. 2 below) along a tubular axial direction of the first piping (Vertical axis of pipe 2, Fig. 2 below); a radial-direction position adjusting structure for moving the welding head (6, Fig. 2 Below) along a radial direction of the first piping (Horizontal axis of pipe 2, Fig. 2 below); wherein the circumferential-direction position adjusting structure includes a rail mounted (5, Fig. 2 below) on a surface of the first piping (2, Fig. 2 below), wherein the rail (5, Fig. 2 below) includes a ring shape surrounding a periphery of the first piping (2, Fig. 2 below), and

wherein the circumferential-direction position adjusting structure further includes a cart (Fig. 2 below) traveling on the ring-shaped rail (5, Fig. 2 below) as a track; the welding head (6, Fig. 2 below) is provided in a welding head support portion (Fig. 2 below) so as to be moved in an oscillatory manner. Oki does not disclose irradiating an outer surface of a T-piping with a laser beam emitted from a laser head and an emission-direction adjusting structure for changing an emission direction of the laser beam in a plane including the tubular axis of the first piping, by changing a direction of the laser head; and a second emission-direction adjusting structure for changing the emission direction of the laser beam in a plane intersecting the plane including the tubular axis of the first piping, by changing the direction of the laser head; wherein the radial-direction position adjusting structure includes one end facing the first piping, wherein the radial-direction position adjusting structure includes a guide roller provided at the one end thereof, and wherein the guide roller makes a rolling contact with a circumferential surface of the first piping. Wegener discloses a laser emitter (28, Fig. 1) serves as the welding head (Par. 3, Lines 33-38) and the laser head can rotate around axis y, z, D, 54a and 54 (Fig. 3; Col. 6, Lines 55-64). Kudo discloses the radial-direction position adjusting structure (Fig. 4 below) includes one end (Fig. 4 below) facing the first piping (2, Fig. 4 below), wherein the radial-direction position adjusting structure (Fig. 4 below) includes a guide roller (14a, Fig. 4 below) provided at the one end thereof, and wherein the guide roller (14a, Fig. 4 below) makes a rolling contact with a circumferential surface of the first piping (2, Fig. 4 below). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Oki, improving residual stress of piping,

which irradiates an outer surface of a T-piping with a laser beam emitted from a laser head and an emission-direction adjusting structure for changing an emission direction of the laser beam in a plane including the tubular axis of the first piping, by changing a direction of the laser head; and a second emission-direction adjusting structure for changing the emission direction of the laser beam in a plane intersecting the plane including the tubular axis of the first piping, by changing the direction of the laser head, as taught by Wegener, for the purpose of preventing stress-corrosion-cracking at the T-piping connection; and the radial-direction position adjusting structure includes one end facing the first piping, wherein the radial-direction position adjusting structure includes a guide roller provided at the one end thereof, and wherein the guide roller makes a rolling contact with a circumferential surface of the first piping, as taught by Kudo, in order to adjust the welding head radial-direction smoothly travel around the pipe.

4. Regarding claim 7, Oki further discloses the ring-shaped rail (5, Fig. 4) comprises two semi-arcuate rail members.
5. Regarding claim 8, Oki further discloses the cart (Fig. 2 below) travels along a circumferential surface of the ring-shaped rail (5, Fig. 2).
6. Regarding claims 9-10, Kudo discloses the radial-direction position adjusting structure (Fig. 4 below) includes a support portion (13a, Fig. 4 below) supporting the guide roller (14a, Fig. 4 below) and fixed to one end (Fig. 4 below) of the tubular axial-direction position adjusting structure, and wherein the radial-direction position adjusting structure (Fig. 4 below) slidingly moves with respect to the support portion.

**7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki (JP 53115640) in view of Wegener (US Pat. 6,601,426) and Kudo (JP 59-150675) and further view of Schadler (US Pat. 6,825,438) (Previously cited) or Sator (US Pat. 6,476,345) (newly cited).**

8. Regarding claim 5, Oki/Wegener/Kudo discloses substantially all features of the claimed invention as set forth above **except** the plurality of the laser heads are provided in a laser head support portion. Schadler discloses plurality of the laser heads are provided in a laser head support portion (Fig. 1). Sato also discloses plurality of the laser heads (14, Fig. 1) are provided in a laser head support portion (12, Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Oki/Wegener/Kudo, the plurality of the laser heads are provided in a laser head support portion, as taught by Schadler or Sato, for the purpose of welding multi-parts at one welding station.

**9. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki (JP 53115640) in view of Wegener (US Pat. 6,601,426) (both previously cited) and Kudo (JP 59-150675) and further view of Kudo (JP 57-195583) (newly cited).**

10. Regarding claim 11, Oki/Wegener/Kudo discloses substantially all features of the claimed invention as set forth above **except** the emission-direction adjusting structure includes a slide and an arcuate-shaped piece, wherein the arcuate-shaped piece is fixed to the radial-direction position adjusting structure and aligned with the plane including the tubular axis of the first piping, and wherein the slide slidably moves along

the arcuate-shaped piece in an arcuate manner. Kudo'5583 discloses the emission-direction adjusting structure (Fig. 3 below) includes a slide (11, Fig. 3 below) and an arcuate-shaped piece (12, Fig. 3 below), wherein the arcuate-shaped piece (12, Fig. 3 below) is fixed to the radial-direction position adjusting structure (Fig. 3 below) and aligned with the plane including the tubular axis of the first piping (2, Fig. 3 below), and wherein the slide (11, Fig. 3 below) slidably moves along the arcuate-shaped piece (12, Fig. 3 below) in an arcuate manner. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Oki/Wegener/Kudo, the emission-direction adjusting structure includes a slide and an arcuate-shaped piece, wherein the arcuate-shaped piece is fixed to the radial-direction position adjusting structure and aligned with the plane including the tubular axis of the first piping, and wherein the slide slidably moves along the arcuate-shaped piece in an arcuate manner, as taught by Kudo'5583, for the purpose of having an angle adjusting device for aiming at angle of a welding torch to the pipe.

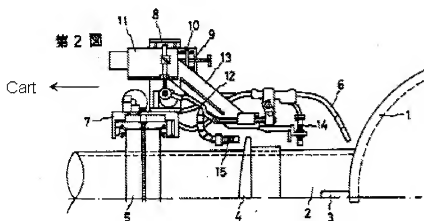
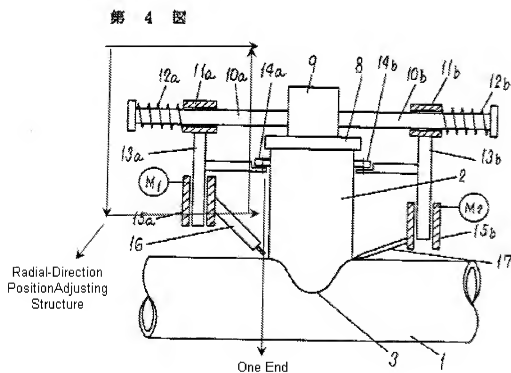
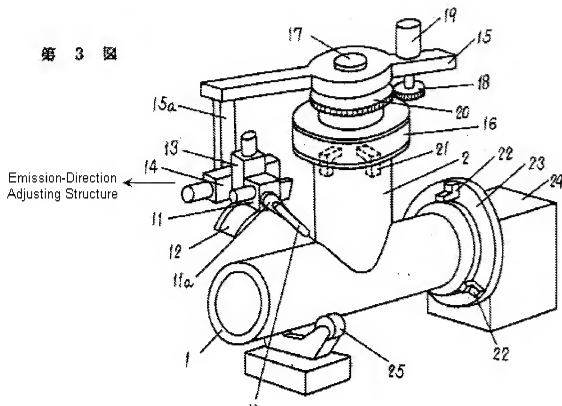


Fig. 2







11. Applicant's arguments with respect to claims 2-5 and 7-8 have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG NGUYEN whose telephone number is (571)270-7828. The examiner can normally be reached on Monday-Friday, 9M-6PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUNG NGUYEN/  
Examiner, Art Unit 3742  
6/23/2010  
/TU B HOANG/

Supervisory Patent Examiner, Art Unit 3742